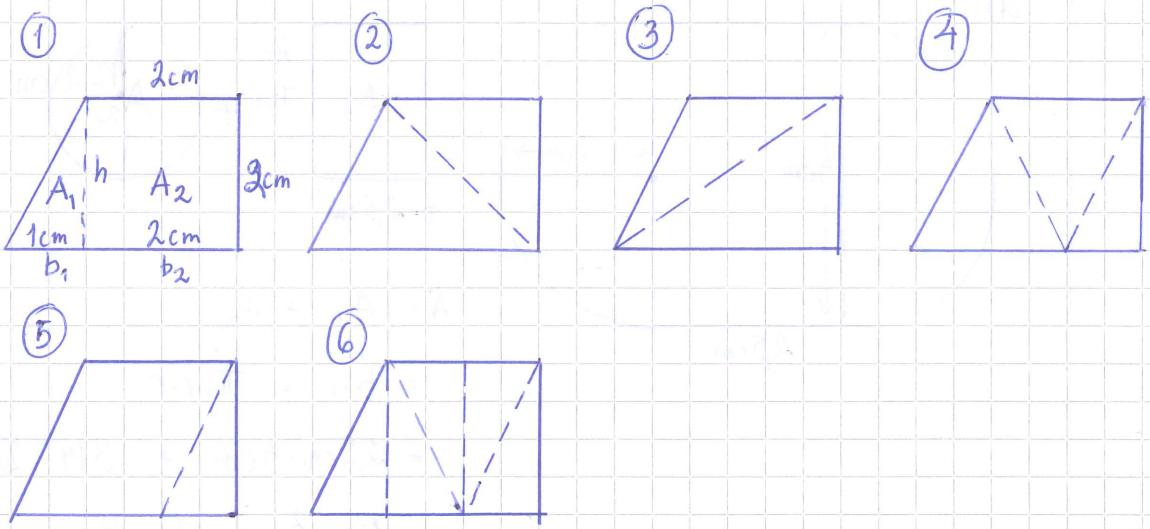
Röd kurs

s. 68

MER OM AREA

13

b)



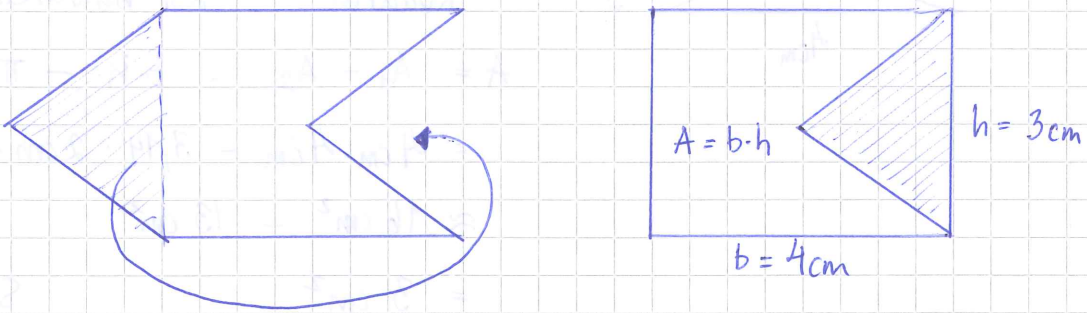
a) $A_1 = \frac{b_1 \cdot h}{2} = \frac{1cm \cdot 2cm}{2} = 1\ cm^2$

$A_2 = b_2 \cdot h = 2cm \cdot 2cm = 4cm^2$

$A = A_1 + A_2 = 1cm^2 + 4cm^2 = 5cm^2$

14

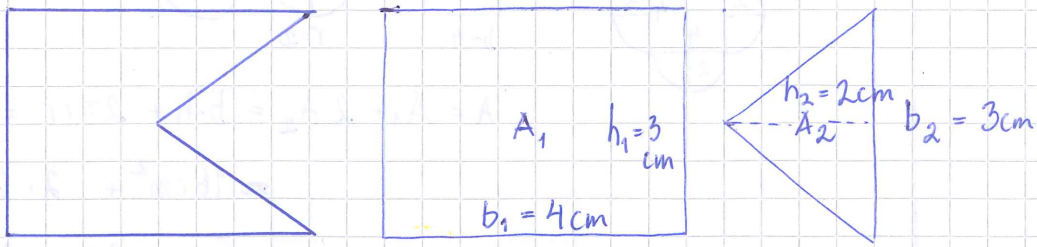
a)



$A = b \cdot h = 4cm \cdot 3cm = 12\ cm^2$

Svar: $12cm^2$

b)



$A = A_1 - A_2$

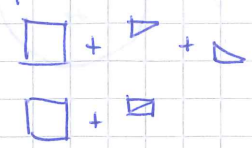
$= b_1 \cdot h_1 - \frac{b_2 \cdot h_2}{2}$

$= 4cm \cdot 3cm - \frac{3cm \cdot 2cm}{2}$

$= 12\ cm^2 - 3\ cm^2 = 9cm^2$

Finns flera andra sätt

t.ex



Svar: $9\ cm^2$

Röd kurs

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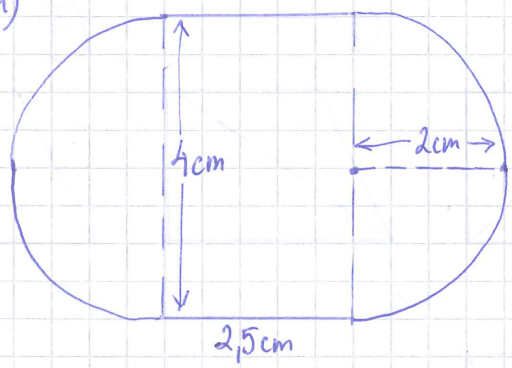
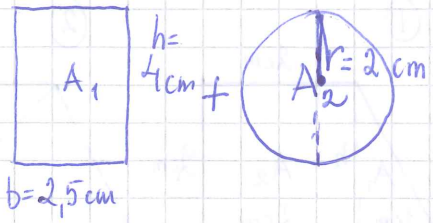
MER OM AREA

15 a)





$A = A_1 + A_2$

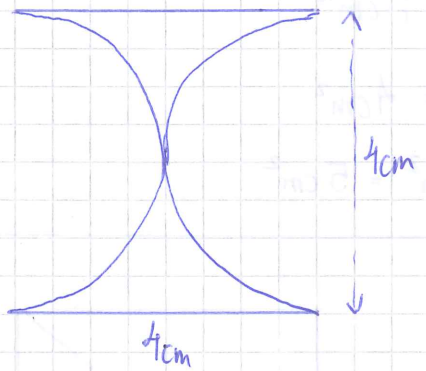
$= b \cdot h + \pi \cdot r \cdot r$

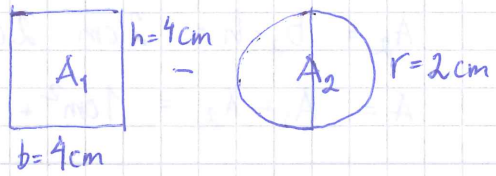
$= 2{,}5\,cm \cdot 4\,cm + 3{,}14 \cdot 2\,cm \cdot 2\,cm$

$\approx 10\,cm^2 + 13\,cm^2$

$\approx 23\,cm^2$ Svar: $23\,cm^2$

b)





Kvadrat − 2st halvcirklar

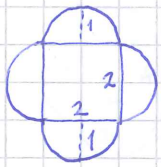
$A = A_1 - A_2 = b \cdot h - \pi \cdot r \cdot r$

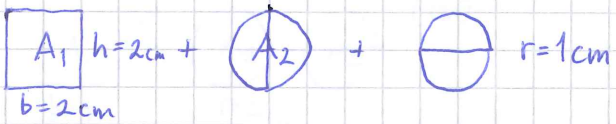
$= 4\,cm \cdot 4\,cm - 3{,}14 \cdot 2\,cm \cdot 2\,cm$

$\approx 16\,cm^2 - 13\,cm^2$

$= 3\,cm^2$ Svar: $3\,cm^2$

16 a)



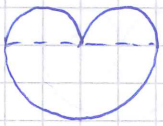


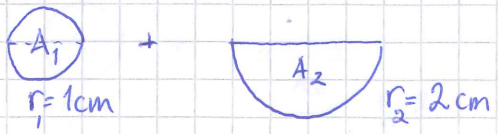
$A = A_1 + 2 \cdot A_2 = b \cdot h + 2 \cdot \pi \cdot r \cdot r$

$= 2\,cm \cdot 2\,cm + 2 \cdot 3{,}14 \cdot 1\,cm \cdot 1\,cm$

$\approx 4\,cm^2 + 6\,cm^2 = \underline{10\,cm^2}$ Svar: $10\,cm^2$

b)





r_1 radien av cirkel nr 1

r_2 radien av cirkel nr 2

$A = A_1 + A_2$

$= \pi \cdot r_1 \cdot r_1 + \frac{1}{2} \cdot \pi \cdot r_2 \cdot r_2$ Svar: $9\,cm^2$

$= 3{,}14 \cdot 1\,cm \cdot 1\,cm + \frac{1}{2} \cdot 3{,}14 \cdot 2\,cm \cdot 2\,cm \approx 3\,cm^2 + 6\,cm^2 = \underline{9\,cm^2}$

Röd kurs

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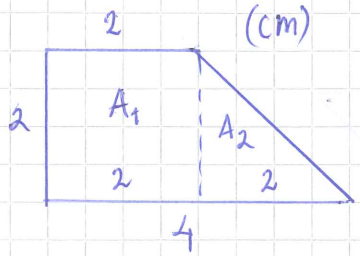
MER OM AREA – PARALLELLTRAPETS

17

a)



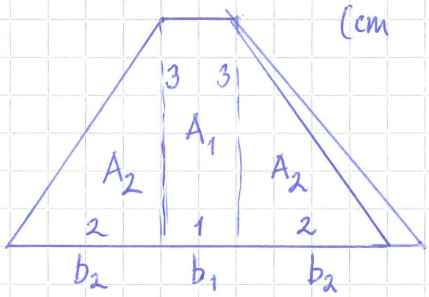
$A = A_1 + A_2$

$= 2cm \cdot 2cm + \frac{2cm \cdot 2cm}{2}$

$= 4\,cm^2 + 2\,cm^2$

$= 6\,cm^2$ Svar: $6\,cm^2$

b)



$A = A_1 + 2 \cdot A_2$

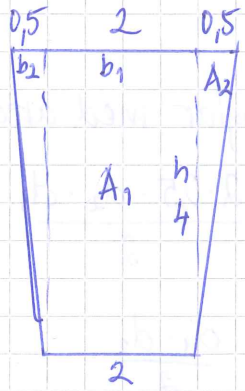
$= b_1 \cdot h + 2 \cdot \frac{b_2 \cdot h}{2}$

$= b_1 \cdot h + b_2 \cdot h$

$= 1\,cm \cdot 3cm + 2cm \cdot 3\,cm$

$= 3cm^2 + 6cm^2 = 9\,cm^2$ Svar: $9\,cm^2$

c)



$A = A_1 + A_2$

$= b_1 \cdot h + 2 \cdot \frac{b_2 \cdot h}{2}$

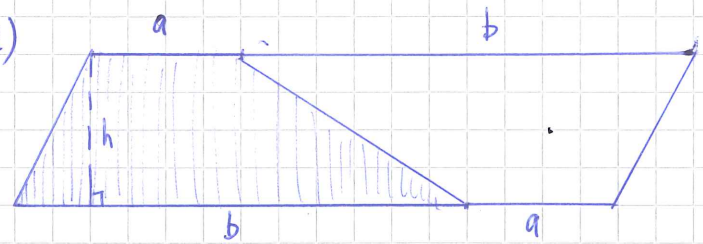
$= b_1 \cdot h + b_2 \cdot h$

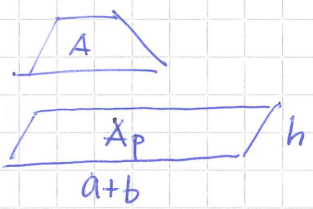
$= 2cm \cdot 4cm + 0{,}5\,cm \cdot 4cm$

$= 8cm^2 + 2cm^2 = 10\,cm^2$ Svar: $10\,cm^2$

18

a)





Parallelltrapetsets area (A) är hälften av parallellogrammens area (A_p)

$A = \frac{1}{2} \cdot A_p = \frac{1}{2} \cdot$ basen $\cdot$ höjden $= \frac{1}{2} \cdot (a+b) \cdot h = \frac{h(a+b)}{2}$

a) $A = \frac{h(a+b)}{2} = \frac{2cm \cdot (4cm + 6cm)}{2} = 10cm^2$

b) $A = \frac{h(a+b)}{2} = \frac{3cm \cdot (5cm + 1cm)}{2} = 9cm^2$

c) $A = \frac{h(a+b)}{2} = \frac{4cm \cdot (3cm + 2cm)}{2} = 10cm^2$

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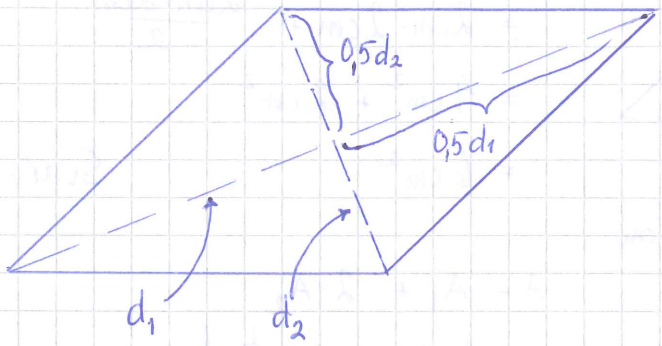
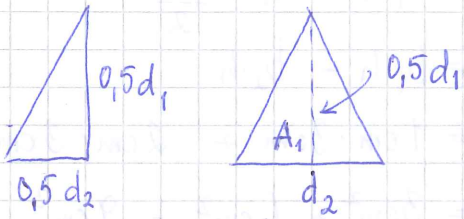
MER OM AREA – ROMB

19





Rombens area består av två st trianglar med arean A_1

$$A = 2 \cdot A_1 = 2 \cdot \frac{d_2 \cdot 0{,}5\, d_1}{2} = \frac{2 \cdot 0{,}5 \cdot d_2 \cdot d_1}{2} = \frac{1 \cdot d_2 \cdot d_1}{2}$$

$$= \frac{d_1 \cdot d_2}{2}$$